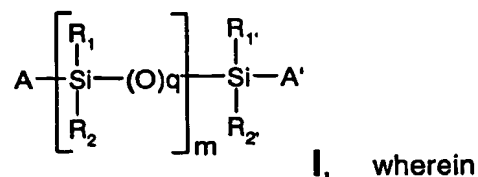


Claims

1. A process for preparing organosilicon group containing photoinitiators of the formula I



m is a number from 1 to 200;

q is 0 or 1;

A is $\text{IN}-\text{C}(\text{O})-\text{O}-\text{CHR}_3-\text{Y}-$ or $\text{IN}-\text{C}(\text{O})-\text{NH}-\text{CHR}_3-\text{Y}-$;

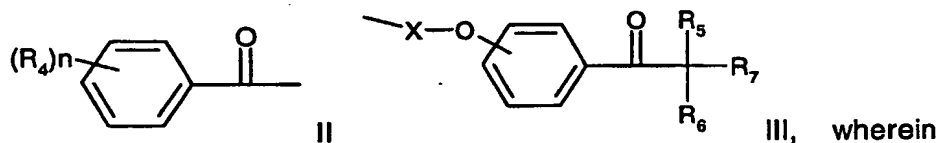
A' is A or R_1' ;

R₁ and **R₁'**, **R₂** and **R₂'** independently of one another are C_1 - C_{18} alkyl or phenyl, or $-(\text{O})_q-\text{SiR}_1\text{R}_1'\text{R}_2$;

R₃ is hydrogen or C_1 - C_6 alkyl,

Y is a divalent group selected from C_1 - C_{10} alkylene, C_2 - C_{10} alkenylene or $-(\text{CH}_2)_b-\text{O}-(\text{CH}_2)_a-$; **a** and **b** are each independently of the other a number of 1 to 6;

IN is a photolabile functional moiety of the formula II or III



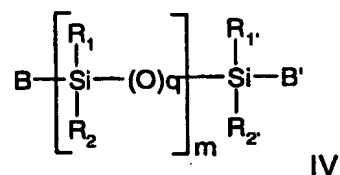
R₄ is hydrogen or $-\text{C}(\text{O})-\text{C}(\text{O})-\text{OH}$ or $-\text{C}(\text{O})-\text{C}(\text{O})-\text{OC}_1-\text{C}_6\text{alkyl}$ and **n** is 1-3;

R₅ and **R₆** are C_1 - C_{12} alkyl or together are cyclo C_5 - C_7 alkyl;

R₇ is hydroxy, C_1 - C_6 alkoxy or morpholinyl;

X is $-(\text{CH}_2)_a-$, $-(\text{CH}_2)_b-\text{O}-(\text{CH}_2)_a-$ or $-(\text{CH}_2)_b-\text{O}-\text{CO}-(\text{CH}_2)_a-$; **a** and **b** are each independently of the other a number of 1 to 6;

whereby the process is characterized in that a photolabile functional moiety containing a carboxy group ($\text{IN}-\text{COOH}$) or an alkoxycarbonyl group ($\text{IN}-\text{CO}-\text{OC}_1-\text{C}_6\text{alkyl}$) is reacted with a carbinol- or amino terminated organosilicon compound of the formula IV



wherein **m**, **R₁** and **R₁'**, **R₂** and **R₂'** are as defined above and

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B is $-Y-CH_2R_3-OH$ or $-Y-CH_2R_3-NH_2$;

B' is **B** or R_1' ,

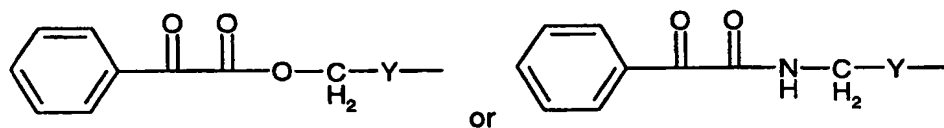
in the presence of an enzyme which catalyzes the esterification, transesterification or amidation reaction.

2. A process according to claim 1, wherein

m is a number from 1 to 20;

q is 0 or 1;

A is a group



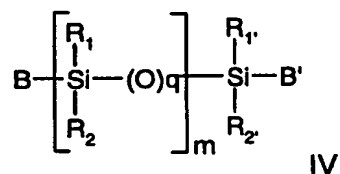
A' is **A** or R_1' ;

R₁ and R_1' , **R₂** and R_2' independently of one another are methyl, $-O-Si(CH_3)_3$ or $-Si(CH_3)_3$;

Y is a divalent group selected from C_1-C_{10} alkylene, C_2-C_{10} alkenylene or

$-(CH_2)_b-O-(CH_2)_a-$; **a** and **b** are each independently of the other a number of 1 to 6;

whereby the process is characterized in that a photolabile functional moiety containing a carboxy group ($IN-COOH$) or an alkoxycarbonyl group ($IN-CO-OC_1-C_6$ alkyl) is reacted with a carbinol- or amino terminated organosilicon compound of the formula IV



wherein **m**, **R₁** and R_1' , **R₂** and R_2' are as defined above and

B is $-Y-CH_2-OH$ or $-Y-CH_2-NH_2$;

B' is **B** or R_1' ,

in the presence of an enzyme selected from esterases, lipases or proteases.

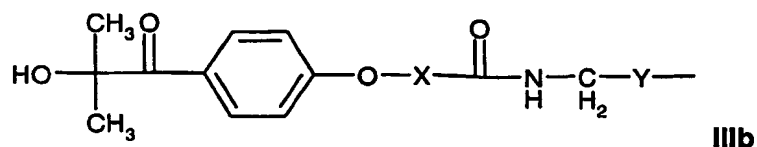
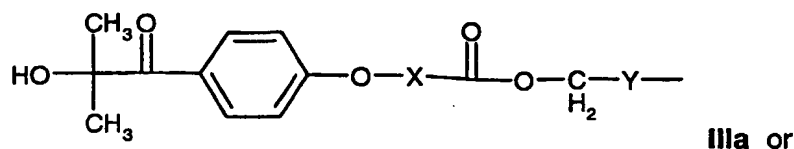
3. A process according to claim 1, wherein

m is a number from 1 to 20;

q is 0 or 1;

A is a group of the formula IIIa or IIIb

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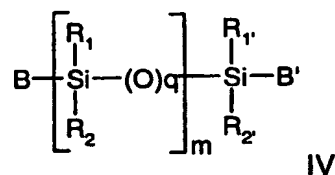
A' is A or R₁';

R₁ and **R₁'**, **R₂** and **R₂'** independently of one another are methyl, -O-Si(CH₃)₃ or -Si(CH₃)₃;

Y is a divalent group selected from C₁-C₁₀alkylene, C₂-C₁₀alkenylene or -(CH₂)_b-O-(CH₂)_a-; **a** and **b** are each independently of the other a number of 1 to 6;

X is -(CH₂)_a-, -(CH₂)_b-O-(CH₂)_a- or -(CH₂)_b-O-CO-(CH₂)_a-; **a** and **b** are each independently of the other a number of 1 to 6;

whereby the process is characterized in that a photolabile functional moiety containing a carboxy group (IN-COOH) or an alkoxycarbonyl group (IN-CO-OC₁-C₆alkyl) is reacted with a carbinol- or amino terminated organosilicon compound of the formula IV



wherein m, R₁ and R₁', R₂ and R₂' are as defined above and

B is -Y-CH₂-OH or -Y-CH₂-NH₂;

B' is B or R₁';

in the presence of an enzyme selected from esterases, lipases or proteases.

4. A process according to any one of claims 1 to 3, wherein the enzyme is immobilized on a support.

5. A process according to any one of claims 1 to 4, wherein the reaction is carried out at a temperature in the range from 25°C to 75°C.